Scratch Pad Contents for Lorraine Refinery - Site Investigation

Scenario Description: To review information collected during site visits, sampling environmental media for determination of presence and extent of hazardous substances on-site and migration of these substances from the site, evaluating and documenting the Hazard Ranking System factors, and collecting additional non-sampling factors.

Done	Line No	Item	Ref
	AR - LR	No air samples were taken during Site Investigation.	
	AR - LR	For Potential Gas Release Calculation: Containtment factor is not listed in table 6-3 (there is no containment of the waste), therefore value of 10 (A). Type factor value is contaminated soil (excluding land treatment), therefore value of 19 (B). The contaminant posing a gas threat is Acetone. Based on the Henry's Law constant for acetone (.0000388) and the vapor pressure for acetone (231.5 torr), the migration potential factor value is 17 (C). The gas potential to release is : A(B+C) 10(19+17)= 360	
	AR - LR	For Particulate Release Calculation: The particulate containment factor is All stituations except those listed in table 6-9 (there is no containment on the site), therefore has a value of 10 (A). The particulate type factor is contaminated soil (excluding land treatment) resulting in a value of 22 (B). According to the map in figure 6-2, the particulate migration potential factor value for the site is 11 (C). The particulate potential to release is calculated as A(B+C) 10(22+11)= 330	
	GS - TAR	There are habitats known to be used by Federal designated or proposed endangered or threatened species: American Burying Beetle and Interior Least Tern.	
	GW - LR	No groundwater samples were taken.	
	GW - LR	The Stephenville and Darnell fine sandy loam has a assigned hydrologic conductivity of 10^-4. The depth of the soil series is up to 40 inches (3.33 feet).	

	GW - LR	There exists visible waste on the site, therefore there is evidence of hazardous substance migration from the source area.	
	GW - TAR	The nearest well that is in use by the population is 1/2 to 1 mile from the site.	
	GW - TAR	There is one well located 1/2-1 mile from the site which serves 165 people. There are eight wells located 1-2 miles from the site which serve 4301 people.	
	GW - TAR	The eight groundwater wells which are located approximately 1.5 miles from the site, are the public water supply for Bristow, Oklahoma.	
	GW - TAR	There are 9 designated wellhead protection areas within 4 miles of the site.	
	SE - LOE	Contaminations exists on site leading to resident population threat to on-site residents.	
	SE - WC	Contaminants present above background levels are as follows: arsenic, chromium, copper, lead, nickel, zinc, acetone, phenanthrene. The waste areas were determined during on-site recon during the preliminary assessment of the site.	
	SE - TAR	Level I contamination has been determined by the carcinogenic status of nickel. According to the Agency for Toxic Substances and Disease Registry (ATSDR),	
	SE - LOE	Public Recreation assigned as Accessible and unique recreational area since the site has a paved road for ease of access, and there is evidence the site has been used for four-wheeling activities.	
	SE - LOE	The area of contamination was the sum of the areas previously determined. 930sqft+1782sqft+324sqft+4995sqft= 7731sqft. The tank site area was not considered since the area was not quantified.	
	SE - TAR	The population within 1 mile occurs as follows: 0-.25 mile: 143 Score: 4 .25-.5 mile: 502 Score: 7 .5-1 mile: 2185 Score: 10 Total Score: 21	
	SE - TAR	The only full time employee on site is the pastor at the First Assembly of God church. All other employees of the site are part-time. Since the pastor is also considered a resident, there are no workers on site considered for the purpose of this investigation.	
	SE - TAR	There are no commercial agriculture, silviculturem or livestock production on the site, therefore the resources factor is assigned as zero.	

	SE - TAR	Habitats of the endangered, threatened, and special concern species are as follows: woodchuck, prairie mole cricket, american burying beetle, interior least tern, and Bachman's sparrow.	
	SW - TAR	There are no surface water intakes within 15 miles of the PPE.	
	SW - TAR	Little Deep Fork downstream from Sand Creek is listed as having agricultural and aesthetic beneficial uses.	
	SW - WC	Copper, Lead, and Zinc were found at levels exceeding the sample taken upstream from the PPE.	
	SW - LR	Copper, lead, and zinc were found at levels which exceeded the levels found upstream from the PPE.	